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ABSTRACT

A study examined whether departmentalization affected the reading achievement of sixth-grade students attending a Chicago public school. A random sample of 30 students was chosen from a group of 53 who received instruction in a departmentalized program. A second random sample of 30 was selected from a total of 54 students who received instruction in self-contained classrooms. Test score results from the Iowa Tests of Basic Skills administered in the spring of each year were used as the posttest score results for the current grade and pretest scores for the next year. A t-test was done on the samples to determine if there was a statistically significant change after a year of exposure to learning in a departmentalized program. Results indicated that, in the experimental group, some excelled, others remained the same, and 3 students digressed, but the control group showed a higher and more consistent growth pattern with no digressions. Findings suggest that the transitional year of a departmentalized program affects reading achievement. (Contains one table of data and 23 references.) (CR)

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THE EFFECT OF DEPARTMENTALIZATION ON THE READING ACHIEVEMENT OF SIXTH-GRADE STUDENTS

By Mary B. Harris

Many of the studies on the departmentalization of classes by subject area and its effect on reading achievement were conducted prior to the 1980's. These early studies dealt more with the common psychological and sociological developments of preadolescence and adolescence that took place during the years when most of the schools had instituted departmentalized classrooms.

School psychologists and teachers may find this study useful when interpreting scores and when trying to understand the actions of children who seem to have difficulty behaving while moving through the corridors for class changes. The data will sharpen one's awareness of the effect of teacher-student relations on academic achievement.

Very few studies were found that focused on the influence of departmentalization on academic achievement. In studies where academic achievement was considered, mathematics was the academic area most studied. Already existing research involving reading achievement will be expanded and supported by this research.

With the, seemingly, constant barrage of attacks on the reading achievement progress of the Chicago Public School students and students of other school systems, also, thought needs to be given to school organization. Should departmentalization by subject area be instituted at all? Is departmentalization being instituted at the right grade? Should departmentalization be used for some or all areas of academic learning in elementary school?

The general population of this research is one which is being studied in regards to its effect on several other areas of society in the United States of America, i.e., politics, government, economics, etc. This study may help interested persons ascertain data to meet the increasing demand for data on this population.

This study will augment the small number of present studies and update data. The findings may be useful in school reform, restructuring and re-evaluation endeavors of school administrators, teachers and local school councils.

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Departmentalization of students for specific subject area learning became most recognized as significant to educational growth during the early 1900's. Mohl (1979) determined that William A Wirt, then superintendent of schools in Gary, Indiana, originated the idea of class division according to subject area. Wirt's plan became known as the Platoon School Plan. It was very extensive in class divisions. The schools using the Platoon plan were more departmentalized than any elementary school departmentalization structure we know of today (Walter, 1970).

Wirt sought to create a self- sustaining child community within the school. Children who studied woodshop learned to make school furniture. Those who studied sewing/tailoring learned to make their own clothes and those who studied home economics learned to shop wisely and prepare food for school lunches. There were also print shops, gardening, mechanics and other classes which prepared the child to live in society. There were academic classes, as well as, classes in art, music, drama and dancing. The Platoon plan involved a full and enriched curriculum (Mohl, 1979).

Brochman (1978) stated that Alice Barrow became a major advocate of the Platoon Plan. She believed that children taught in schools using this plan would have the benefits of academic education and would be able to continue on in higher education, as well as, acquired skills needed in everyday life and in some areas of the work world. Barrows believed that children taught in platoon schools would know how to live productively.

Today, departmentalization by subject area has become ingrained in school organization (Walter, 1970). Departmentalization has at one time or another been used at every grade level except kindergarten, but most in grades seven and eight. Departmentalization at grades five and six were the next most widely used. It appears, from my readings, that the lower the grade the lesser its use in departmentalized organization.

School administrators and organizers reasoned that involving elementary school students in departmentalized programs allowed them to become familiar with the mechanics of high school organization prior to actual high school attendance. Thus, beginning high school students could use their energy and time, which would otherwise be used acclimating to the high school organization, for actual acquisition of academic requirements (Eccles and Midgley, 1991).

There was a controversy about the value of departmentalization programs as compared to non-departmental or self-contained programs. One opinion in the matter is that where only one subject area was taught, the teacher had more time for learning and perfecting knowledge in that area (McPartland, 1987). More knowledge and skills for disseminating the concepts in one subject area enabled students to receive

higher-quality education. Others believed that this focus did not permit the needed teacher-student relations for this age group. In a study by McPartland (June,1987), children were surveyed to determine how well they thought they could relate to their teachers and how much they were learning. Students in departmentalized programs believed they learned more in science, social studies and reading. They also believed that there was little rapport between them and their teachers. Students in self-contained programs believed they learned more in reading, mathematics and social studies. They rated their teachers high on teacher-student relations. Walters (Feb, 1970) stated that "the teacher-pupil relationship necessary for understanding each child as an individual is easier to establish with thirty students than with one-hundred fifty." McPartland (June, 1987) argued that there was strong evidence that sixth-grade teacher-student were more positive in schools that had self-contained classrooms than in schools where departmentalized classrooms were used.

Another issue was time-on-task. Departmental programs have only a limited amount of time for each class session and pupils often cannot acquire needed information readily when it is given in short fragmented sections. Also the amount of time involved in gathering and preparing materials for each class limits the amount of time which can be spent on task. One of the basic needs of early adolescents is to feel competent. School organization, curriculum, and the nature of instruction foster or limit how students feel about achievement and competence (MacIver, 1993).

A third issue was the maturation factors which take place during preadolescence and adolescence. Some argued that students needed mobility and change so as to learn about and develop their own individuality. Such mobility allowed them to be as socially active as required by their personality. Others believed that sixth-grade students, in particular, were not ready for such mobility. They needed a firmer base or structure that does not include so many options (Walters 1970).

A final issue was the physical make-up of the school facility. Some argued that the physical building affected the degree of success of a departmental program (Mohl 1970). Schools without auditoriums, gymnasiums and lunchrooms are thought to not be conducive to a good departmental program. The developer of the Platoon school advocated the need for properly planned school buildings to insure the best and fullest use of them. Wirt used the space in Gary's schools so efficiently that they became economically efficiently, also. Alice Barrows believed that there was a direct relationship between the design of the school building and the success of the platoon program. She spoke in public meetings and wrote articles for School Life about the need for planning of functional school buildings.

The last issue may be the least relevant to this study. A well-planned curriculum and conscientious teachers could produce ways to make up for most physical deficiences of a school building. Mobile units, double shifts/double occupancy and use of corridors and teacher meeting rooms may be alternatives for easing physical confinements.

The most significant issue is whether the presence or absence of good teacher-student relations affect achievement. Points raised by Walters (1970), MacPartland (1987), Hollifield (1988), MacIver (1993), and Lounsbury (1988) and by the researchers who produced the DesMoines, Iowa Public School Report, 1989, suggested that there is agreement on the belief that social adjustments affect achievement and that teachers' understanding of pupils' psychological and sociological needs are important to healthy social adjustment. One could, therefore, conclude that teacher-student relations are significant to student achievement.

Alspaugh and Harting (1995) determined that in grades five, six, seven and eight, there was a definite digression in reading achievement for the first year in a departmental program after having been in a self-contained program. The reading achievement scores seemed to move forward during the second year and onward, however, the loss which occurred during the transition year was never recovered.

Elseroad (1980) discovered that self-contained sixth-grade students scored significantly higher in reading achievement than students in departmentalized classrooms. In a study by Ward (1970) significantly greater gains in reading were found for fourth, fifth and sixth grade students in self-contained classrooms than for students in the same grades in departmentalized classrooms. However, Hollifield (1987) found that fifth and sixth grade students scored significantly higher in a departmentalized structure than students in a self-contained structure in all subject areas except mathematics. Grooms (1967) concluded that although fourth, fifth, and sixth grade students scored significantly higher in spelling, language, and word knowledge, they did not score significantly different in reading, than did students in departmentalized classrooms of the same grades.

Moore (1984) concluded that there was a significant difference between the reading mean score of K-8 students and that of Junior High School students. The prior having self-contain structure as opposed to a departmentalized structure of the latter. Moore's study showed other significant differences, i.e., students in self-contained classes had more positive attitudes toward school, reflected stronger self-esteem, were absent significantly fewer days and perceived their teachers to be more humanistic than their peers who were in a departmental program in Junior High School. A two year study by Stoddard (1961) involved students in grades one through six. The results showed no significant difference between the two forms of organization.

Proponents of self-contained classrooms contend that instruction at the elementary level should be child-centered rather than subject-centered (Alpaugh and Harting 1995). Proponents believe that the self-centered minimizes the number of teachers with whom a student must interact, thus allowing for psychological and sociological growth to take place with the least amount of variables (Ed. of DesMoines 1989). On the other hand, Lambert (1992) concluded that organizational did not affect pupil adjustment, which is believed to affect achievement (Walters 1970).

In conclusion, it can be said that the development, implementation, and regular, thorough evaluation of programs that are responsive to the needs of children in early adolscence reading achievement will improve regardless of the organizational structure or of the physical outlay of the school building.

Any type of educational improvement is dependent upon the attitudes of the total adult population that is involved in the learning/teaching/educating process. Teachers, administrators, local school council members, and parents help determined the achievement of school children.

There is no definite classroom organization--departmentalization or self-contained--which unerringly produce better reading achievement scores consistently. Yet, it can be concluded that teacher-pupil relations are highly significant to student achievement and the self-contained classroom offers more opportunity for good teacher-student relations to develop.

Therefore, the purpose of the study is to determine the effect of departmentalization on sixth-Grade Students.

PROCEDURE

Population

One-hundred and seven sixth-grade students who attend a Chicago public school in the in the Pilsen area. The area is predominantly lower socio-economic area. There are numerous one-parent families, many of which receive some form of governmental assistance. There is a high degree of intercommunity mobility of the families. The population/sample is made up of approximately 95% Hispanic American, 2% Polish American, 2% African American, and 1% other.

A random sample of thirty students was selected from a total group of fifty-three sixth-grade students who received instruction in a depart - mentalized program. A second random sample of thirty students was selected from a total of fifty-four sixth-grade students who received instruction in self-contained classrooms.

The Iowa Tests of Basic Skills (ITBS) is administered in the spring of each year. Test score results were used as the posttest score results for the current grade and pretest score results for the next grade. i.e. A student in fifth grade during the school year 193-94 was tested in the spring of 1994. These test results became the posttest scores for fifth-grade (1993-94) and the pretest scores for grade six (1994-95). The posttest scores for sixth-grade was administered in the spring of 1995 and also served as the pretest for seventh-grade for September 1995. A t-test was done on the samples to determine if there was a statistically significant change in after a year of exposure to learning in a departmentalized program.

Table I summarizes the statistical analysis.

Iowa Tests of Basic Skills (ITBS); 1994 and 1995 editions; Levels 11 and 12, Forms 94 and 95. The ITBS were standardized jointly with the Cognitive Abilities Test. This provides an additional source for aiding in the interpretation of pupils' performance. The Kuder-Richardson twenty reliabilities for the subtests and total tests range between .70 and .90. They are generally about .85. The ITBS consists of eleven subtests which are designed to fit into six categories or levels. The K-R reliability of subtest is lower than that of the correlations between total scores. The Iowa Tests of Basic Skills are designed and constructed by the professional staff of the College of Education at the University of Iowa and are changed to a different form each year. The forms measure the same variable, have the same structure, the same difficulty level, and the same directions for administering, scoring, and interpretating. Their coefficient of equivalance is very high.

The findings will be tabulated in terms of means and standard deviations. The t test will be employed at the .05 level of confidence to determine if there is any statistically significant difference between the mean scores.

Table I

MEANS, STANDARD DEVIATIONS AND t TEST FOR THE EXPERIMENTAL GROUP AND CONTROL GROUP FOR READING ACHIEVEMENT SCORES

Reading

Test	Experimental N = 30	Control N = 30	t
Pretest			
M	5.0	5.3	
SD	1.40	1.41	
Posttest			
M	5.5	6.1	
SD	1.14	.85	2.31

t-Test For Independent Samples

STATISTICS	VALUE
NO. OF SCORES IN GROUP ONE	30
SUM OF SCORES IN GROUP ONE	165.5
MEAN OF GROUP ONE	5.51
SUM OF SQUARED SCORES IN GROUP ONE	39.21
SS OF SCORES IN GROUP ONE	1.14
NO. OF SCORES IN GROUP TWO	30
SUM OF SCORES IN GROUP TWO	181.5
MEAN OF GROUP TWO	6.1
SUM OF SQUARED SCORES IN GROUP TWO	21.72
SS OF GROUP TWO	.85

df = 58 $p > .05$

Findings of the Study

The purpose of this study was to determine whether departmentalization affected the reading achievement of sixth-grade students. Most of the students in the experimental group showed progress of a few months. Some excelled and gained two to two and one-half years growth, while others remained at the same level and three students digressed two or three months. The control group showed a higher and more consistent growth pattern with no digressions.
The 1994 mean pretest scores indicated that the E-group and C-group were not significantly different when the study began (E-group 5.0 SD 1.40; C-group 5.3, SD 1.41).
The 1995 mean posttest scores revealed that after receiving instruction in a departmentalized program for one year, the E-group did not score as high as the C-group. The E-group had a mean reading achievement score of 5.51 and the C-group score was 6.1. The standard deviations were not significantly different in the pretest (E-group 1.40 and C-group 1.41) however in the posttest the difference is very evident with the E-group at 1.41 and the C-group at .85.
Using the t-test formula, the data revealed a t-score of 2.318. The t-Table score is 2.00. This finding indicates that there is a significant difference at the .05 level in favor of the Control group/self-contained classroom instruction. These findings are contrary to much of the review literature. It does agree with Alpaugh and Harting's findings about reading achievement in the first year of departmentalized instruction. This research suggest that the transitional year of a departmentalized program affects reading achievement.
The E-group had to adjust to the mechanics of such a program, develop relationships with and learn teaching styles of several different teachers, and have social contacts with a much larger group of classmates. The C-group were not required to make such adjustments. Sixth-grade students may be too immature to adjust to a new routine and do not need constant change.

Follow-up research using a different random sampling of the sample large sample as recorder earlier, a study with the same samples using an interrupted time series design for year prior to and year after this study and a stratified sample study are recommended for future research is this area.

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